Attorney Docket No: MI/219B

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: McGregor et al.	) Group Art Unit: 3634
Serial No.: 10/779,536	) Examiner: D. M. Purol
Filed February 13, 2004	)
For: Durable Insect Screen With Improved Optical Properties	)

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Declaration of Thomas F. Klobucar

1. I am a consultant working in the field of market research. In 2003, I was Director of Research with the consulting firm of Vernon Research Group. Vernon Research Group specializes in unbiased assessments of consumer sentiment. I have extensive experience conducting consumer research using a variety of research tools including traditional focus groups and consumer survey. I hold a Ph. D. in Political Science from the University of Iowa and have conducted quantitative and qualitative research in a number of different countries around the world.

2. In 2003, I conducted a study of consumers to gauge reaction to a new product being introduced by Gore, the Gore Transparent Screen Fabric ("the Gore Screen"). This study was designed to explore the attitudes, opinions, preferences and predispositions of above average income homeowners toward the Gore Screen. A sample of study participants was drawn from three American cities – Atlanta, Georgia, Philadelphia, Pennsylvania, and Chicago, Illinois. Vernon Research Group convened the six groups, two each in the cities of Atlanta, Philadelphia, and Chicago. Participants numbered 20 in Atlanta, 21 in Philadelphia, and 23 in Chicago. Participants were homeowners, 52% female, aged 26-64 (only 10% between 25 and 34). One half had annual household incomes from $50k-

$100k ($75k-$125k in Chicago) and one half, $100k and higher ($125 and higher in Chicago). Home values were also split: in Atlanta and Philadelphia, homes were mixed in value starting at $175k and ranging up to over $450k, and in Chicago, the home value range started at $250k and up to $700k.

3. The sessions began with a discussion of participants' thoughts in general about screens: how they used them in their day-to-day lives, and how they would change them if they could. Participants were allowed to look at and handle 1 'x1' current market screens during this portion of the discussion.

4. Discussion of the Gore Screens began when Vernon Research Group's moderator unveiled two windows: one with a current market screen installed and the other with the Gore Test Screen. Initial reactions were discussed while participants viewed the screen as if from the interior of a room. The windows were then turned to elicit reactions to the street side view.

5. At no time were respondents told the source of the windows or screen material and the existence of the Gore Screen and its attributes were not revealed. The results reported in the findings section of this report were not prompted by the moderator, who remained objective throughout. The groups were allowed to take their discussions wherever they wished, provided the discussion was germane to the topic at hand.

6. The reactions to the Gore Screen were very enthusiastic. In fact, it is difficult to overstate the excitement the transparency of the Gore Screen caused. Comments like "amazing" and "unreal" were typical. Other specific comments about transparency included "unbelievable" and "incredible." The transcriber, unable to make out some specific words when the Gore Screens were introduced, described participants as making "sounds of awe." Perhaps most telling was the reaction of participants who, on more than one occasions and in more than one group, asked the moderator to touch the Gore Screen to prove there was a screen

on the window as they observed them. This excitement continued whether viewing the screens as if from inside a room or from the street side. The street side views of the windows with the Gore Screens were particularly appreciated by those who had strong feelings about the exterior appearance of their homes. Many participants wanted to know where they could buy them, and wanted them immediately. I would say that the participants were surprised by the transparency of the Gore Screen.

7. The participants also found the Gore Screens to be surprisingly durable and dent resistant. Participants handled the screens, scratched, poked, prodded, and banged them, and many volunteered that the Gore Test Screens were, in fact, stronger than the current market screens. One of the characteristics which almost all noticed was the Gore Screen's resilience; that particular characteristic seemed to convey strength to those who handled the fabric.

8. All statements herein of my own knowledge are true, and any statement made on information or belief is believed to be true. I understand that willful false statements are punishable by law.

Respectfully Submitted,

Thomas F. Klobucar

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Table 1. Typical Mechanical Properties at Room Temperature
(Based on ordinary stress-strain values)

Metal	Tensile strength, 1,000 lb/in²	Yield strength, 1,000 lb/in²	Ultimate elongation, %	Reduction of area, %	Brinell No.
Cast iron	18–60	8–40	0	0	100–300
Wrought iron	45–55	25–35	35–25	55–30	100
Commercially pure iron, annealed	42	19	48	85	70
Hot rolled	48	30	30	75	90
Cold rolled	100	95			200
Structural steel, ordinary	50–65	30–40	40–30		120
Low alloy, high strength	65–90	40–80	30–15	70–40	150
Steel, SAE 1300, annealed	70	40	26	70	150
Quenched, drawn 1300°F	100	80	24	65	200
Drawn 1000°F	130	110	20	60	260
Drawn 700°F	200	180	14	45	400
Drawn 400°F	240	210	10	30	480
Steel, SAE 4340, annealed	80	45	25	70	170
Quenched, drawn 1300°F	130	110	20	60	270
Drawn 1000°F	190	170	14	50	395
Drawn 700°F	240	215	12	48	480
Drawn 400°F	290	260	10	44	580
Cold-rolled steel, SAE 1112	84	76	18	45	160
Stainless steel, 18-S	85–95	30–35	60–55	75–65	145–160
Steel castings, heat-treated	60–125	30–90	33–14	65–20	120–250
Aluminum, pure, rolled	13–24	5–21	35–5		23–44
Aluminum-copper alloys, cast	19–23	12–16	4–0		50–80
Wrought, heat-treated	30–60	10–50	33–15		50–120
Aluminum die castings	30		2		
Aluminum alloy 17ST	56	34	26	39	100
Aluminum alloy 51ST	48	40	20	35	105
Copper, annealed	32	5	58	73	45
Copper, hard-drawn	68	60	4	55	100
Brasses, various	40–120	8–80	60–3		50–170
Phosphor bronze	40–130		55–5		50–200
Tobin bronze, rolled	63	41	40	52	120
Magnesium alloys, various	21–45	11–30	17–0.5		47–78
Monel metal, 70Ni, 30Cu	100	50	35		170
Molybdenum, arc-cast	97	91	28*	40	260
Zirconium, crystal bar	24–43	8–26	54–24	75–25	70–130
Titanium (99.0 Ti), annealed bar	95	80	47	27	
Ductile iron, Grade 90–65–02, as cast	95–105	70–75	2.5–5.5		225–265

Compressive strength of cast iron, 80,000 to 150,000 lb/in².
Compressive yield strength of all metals, except those cold-worked, = tensile yield strength.
Stress, 1,000 lb/in² × 6.894 = stress, MN/m².
*1 in gage length.

The specimen percent **reduction in area** (RA) is the contraction in cross-sectional area at the fracture expressed as a percentage of the original area. It is obtained by measurement of the cross section of the broken specimen at the fracture location. The RA along with the load at fracture can be used to obtain the **fracture stress**, that is, fracture load divided by cross-sectional area at the fracture.

The type of fracture in tension gives some indication of the quality of the material, but this is considerably affected by the testing temperature, speed of testing, the shape and size of the test piece, and other conditions. Contraction is greatest in tough and ductile materials and least in brittle materials. In general, fractures are either of the **shear** or of the **separation** (loss of cohesion) type. Flat tensile specimens of ductile metals often show shear failures if the ratio of width to thickness is greater than 6:1. A completely shear-type failure may terminate in a chisel edge, for a flat specimen, or a point rupture, for a round specimen. Separation failures occur in brittle materials, such as certain cast irons. Combinations of both shear and separation failures are common on round specimens of ductile metal. Failure often starts at the axis in a necked region and produces a relatively flat area which grows until the material shears along a cone-shaped surface at the outside of the specimen, resulting in what is known as the cup-and-cone fracture. Double cup-and-cone and rosette fractures sometimes occur. Several types of tensile fractures are shown in Fig. 3.

Annealed or hot-rolled mild steels generally exhibit a **yield point** (see Fig. 4). Here, in a constant strain-rate test, a large increment of extension occurs under constant load at the elastic limit or at a stress just below the elastic limit. In the latter event the stress drops suddenly from the **upper yield point**

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